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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/853,591

05/14/2001

Meng-Huang Liu

4006-122

6739

7590

06/17/2004

LOWE HAUPTMAN GOPSTEIN GILMAN & BERNER, LLP
Suite 310
1700 Diagonal Road
Alexandria, VA 22314

EXAMINER

NGUYEN, DANNY

ART UNIT

PAPER NUMBER

2836

DATE MAILED: 06/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/853,591

Applicant(s)

LIU ET AL.

Examiner

Danny Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-23 and 25-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17-23 and 25-28 is/are allowed.
- 6) ☒ Claim(s) 1,3-5 and 7-9 is/are rejected.
- 7) ☒ Claim(s) 6 and 10-16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/25/2004 has been entered.

Response to Arguments

2. Applicant's arguments filed 03/25/2004 have been fully considered but they are not persuasive.

Regarding claim 1, applicant argued that Ker does not teach the ESD device can be coupled to two different power supplies and the ESD device can use in a mixed voltage circuit assembly. The arguments are not convincing because Ker teaches that the ESD device (fig. 2) is coupled to two different power supplies (e.g. Vdd and Vss). The claimed invention refers to a mixed voltage circuit assembly. The examiner understands this to be any circuit with more than one voltage lines present. Ker discloses the ESD circuit (fig. 2) in which two voltage lines are present (VDD and VSS). Thus, applicant's arguments do not distinguish over Ker reference.

Claim Objections

3. Claims 1, 7 are objected to because of the following informalities: claim 1, line 11, page 2, the phrase "said first transistor" is lack of antecedent basic; and claim 7, line

3, page 3, the phrase "one end of said first resistance" should be read "one end of said first capacitor". Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 4, 5, 7, 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Ker et al (USPN 5,631,793).

Regarding claims 1, Ker discloses an electrostatic discharge (ESD) protection device (fig. 2), applied to a mixed voltage circuit assembly with a first power supply (Vdd) and a second power supply (Vss), the device comprises an RC controlled circuit subassembly (capacitor Cp1 and resistor Rp), coupled with the mixed voltage circuit assembly, utilizing for substantially controlling the ESD protection device to be ON or OFF, wherein the RC controlled circuit subassembly comprising a resistance (Rp), one end of the resistance being coupled to the high voltage source of the first power supply (Vdd); and a capacitor (Cp1), coupled to the low voltage source of the second power supply (Vss) and the other end of the resistance, together with the resistance, utilizing for substantially controlling a first transistor (Mp1) to be ON or OFF; and a first transistor (Mp1), coupled between the first power supply (Vdd) and the second power supply (the

Mp1 is electrically connected to Vss) of the mixed voltage circuit assembly for providing a current route on an ESD event, and being coupled to the RC controlled circuit subassembly (e.g. col. 4, 5, lines 34-7 and col. 6, lines 5-22).

Regarding claim 4, Ker discloses an ESD device wherein the first transistor is a PMOS transistor (Mp1).

Regarding claim 7, Ker discloses an ESD device wherein the RC Controlled circuit comprises a resistance (Rn) and a capacitance (Cn1).

Regarding claim 5, Ker discloses an ESD protection device wherein the first PMOS transistor is further located in a first N-well. See fig. 5.

Regarding claim 9, Ker discloses an ESD device wherein the first transistor is a NMOS transistor (Mn1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3 and 8 and are rejected under 35 U.S.C. 103(a) as being unpatentable over Ker et al. Ker discloses an electrostatic discharge protection device, applied to a mixed voltage circuit assembly, the device comprising a RC controlled circuit subassembly and a first transistor wherein the RC Controlled circuit comprises a resistance and a capacitance. Ker does not specify that the RC time constant has a

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value of 0.1 to 10 microseconds. It would have been obvious to one having ordinary skill in the art at the time the invention was made to select the RC constant value to any desired value as long as it compatible with the requirements of other elements in the circuit in order to properly perform the protection function of the ESD protection device. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch. 617 F.2d 272. 205 USPO 215 (CCPA 1980).

Allowable Subject Matter

6. Claims 17-23, 25-28 are allowed

Claims 6, 10-16, 20, and 23-28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 6, 10-16, 17, 21 disclose, inter alia, an electrostatic discharge protection device, applied to a mixed voltage circuit assembly, the device comprises a RC controlled circuit subassembly and a first transistor wherein the RC Controlled circuit comprises a resistance and a capacitance and further comprises a second transistor in a specific configuration.

The references of record do not teach or suggest the aforementioned limitation, nor would it be obvious to modify those references to include such limitation.

Conclusion

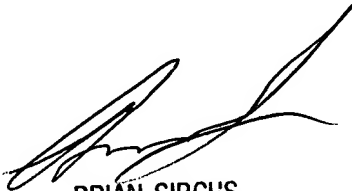
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Danny Nguyen whose telephone number is (571)-272-2054. The examiner can normally be reached on Mon to Fri 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571)-272-2058. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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6/2/2004



BRIAN SIRCUS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800